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**SERIES M: TMN AND NETWORK MAINTENANCE:
INTERNATIONAL TRANSMISSION SYSTEMS,
TELEPHONE CIRCUITS, TELEGRAPHY, FACSIMILE
AND LEASED CIRCUITS**

Designations and information exchange

Network maintenance service performance agreement (MSPA)

ITU-T Recommendation M.1532

(Formerly CCITT Recommendation)

ITU-T M-SERIES RECOMMENDATIONS

TMN AND NETWORK MAINTENANCE: INTERNATIONAL TRANSMISSION SYSTEMS, TELEPHONE CIRCUITS, TELEGRAPHY, FACSIMILE AND LEASED CIRCUITS

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Network maintenance service performance agreement (MSPA)

Summary

This ITU-T Recommendation, making reference to the basic principles of the management of the Grade Of network Maintenance Services (GOMS) at the Maintenance Service Customer Contact point (MSCC)¹, provides to both a Maintenance Service Customer (MSC) and a Maintenance Service Provider (MSP) of any Maintenance Service (MS), specific guidelines to establish and manage the effectiveness of an appropriate network² Maintenance Service Performance Agreement (MSPA).

An MSPA is a set of appropriate procedures and targets related to specific performance parameters, action plans and relevant action points which are formally or informally agreed between an MSC and an MSP, in order to support ITU-T Recommendations and achieve and maintain the agreed GOMS under all possible operational circumstances. If both MSC and MSP wish to further improve the previously agreed GOMS, the MSPA guidelines may also be used. The MSPA may be an integral part of a contract or an informal agreement between the parties involved.

Source

ITU-T Recommendation M.1532 was prepared by ITU-T Study Group 4 (1997-2000) and approved under the WTSC Resolution 1 procedure on 4 February 2000.

Keywords

Action point, actions plan, grade³ of maintenance service, maintenance service⁴, maintenance service contract⁵, maintenance service customer contact point⁶, maintenance service customer⁴, maintenance service element(s)⁴, maintenance service informal agreement⁵, maintenance service performance agreement⁷, maintenance service performance agreement management, maintenance service performance agreement management difficulty index, maintenance service provider⁴, maintenance service unavailability⁴, management of the grade of maintenance service⁸, quality of service⁹.

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- ¹ The GOMS concepts and its management are described in ITU-T Recommendation M.1539.
 - ² The word network is used here to emphasize that the MSs are related to the entire telecommunication network and it will be avoided further within the text.
 - ³ For the purpose of this ITU-T Recommendation the terms: grade of service, service level, service performance are similar.
 - ⁴ The definition is reported in ITU-T Recommendation M.1539.
 - ⁵ The definition is reported in ITU-T Recommendation M.1537.
 - ⁶ For a generic service the term "Service Access Point (SAP)" is often used.
 - ⁷ Similar terms such as: "Service Level Agreement (SLA)", "Service Level Guarantee (SLG)" and "Service Quality Agreement (SQA)" are currently used in the area of telecommunications services. ITU-T Recommendation E.801, in particular, shows the main SQA concepts and the framework to be used by Network Operators/Providers and/or Service Providers for any switched or dedicated telecommunication service.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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⁸ The main concepts are reported in ITU-T Recommendation M.1539.

⁹ In the area of concepts relating to "quality of service" and "network performance" a simple and consistent set of terms and definitions is reported in ITU-T Recommendation E.800.

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Introduction

In today's telecommunications environment, the provisioning of all features of any MS requires more and more an appropriate inter-operability between all the various maintenance organizations within different Network Operators/Service Providers and Customers which are involved in the MS domain concerned. In this multiple service providers situation, according to ITU-T Recommendation M.1539, in order to achieve the overall GOMS objective as agreed for any specific MS between an MSC and an MSP in a contract or in an informal agreement, it is necessary to properly manage the overall GOMS. Considering both MSC and MSP point of view, an efficient GOMS management is very important as it is strictly related to their individual business. At present, in particular, each MSP focuses to assure the "honouring at the operational level" of all contracts or informal agreements regarding any offered MS which are stipulated with every MSC. Nevertheless, in some cases, the GOMS agreed objective is very hard to attain or difficult to maintain. This is generally due to frequent instability, or sometimes to sudden drops of the performance values with respect to the specified limits/targets of one or more of the performance parameters/indices contributing to the overall GOMS. These parameters/indices are related to all procedures of each process pertaining to a particular Maintenance Service Element (MSE) within the adopted Operational Procedures Selection for the management, achievement and improvement of the agreed GOMS (OPSG). If these events of performance degradation or dropping are not analysed immediately, and their causes removed in a reasonable time, this will lead to a permanent condition of "unacceptable MS/GOMS".

In this case, in order to achieve the overall agreed GOMS, it is necessary to review carefully all initial performance parameters regarding each procedure of involved processes and relevant performance indices, and also whether their assessments/measurements are still valid or whether they need to be revised, or completely changed with new ones.

In the above context, the most suitable current way to manage all QoS aspects of any MS is to use an MSPA between an MSC and an MSP of the involved MS. The MSPA may be an integral part of the contract or the informal agreement between the parties concerned. An MSPA normally implies an appropriate set of procedures and targets, formally or informally agreed and signed between an MSC and an MSP in a specified actions plan, and relevant action points. Every actions plan has individual objectives and specified modalities to be carried out with a precise deadline for its completion or, when necessary, its revision or update.

Another important issue to consider is the ever-increasing demand for an efficient MSPA management, either considering a simple situation of one MSPA or when, due to a great number of simultaneous MSPAs, to satisfy the pressure of MSPA requests, several MSPAs co-exist. To ensure an efficient management of any number of required MSPAs, it is necessary to find out suitable criteria such as the continuous evaluation of an appropriate index representing the difficulty level driven by all technical and commercial business aspects related to the MS/GOMS concerned. An efficient MSPA management may imply an increase of the operational cost above the values which were related to the previous contract or informal agreement as stipulated between the MSC and the MSP.

It is to be noted that all concepts, methodologies, objectives and any possible target as described in an MSPA, may also be applied when more than one MSP is involved in the interested MS. That is, in particular, the case of the MS/GOMS agreed between an MSP and another MSP where, in practice, one acts as an MSC and the other as an MSP. Similar considerations apply when an MSPA is signed between Network Operators and/or between Network Operators and Service Providers. In both cases, one of the Network Operators or Service Providers plays the role of the MSP and the other the role of the MSC.

ITU-T Recommendation M.1532

Network maintenance service performance agreement (MSPA)

1 Scope

An MSPA provides guidelines to any MSC and MSP of the interested MS, in order to agree upon and carry out an appropriate actions plan, to ensure the effective achievement or, under specific requests, even the improvement of the GOMS.

This ITU-T Recommendation specifies:

- a) the MSPA general aspects to achieve the agreed GOMS based on QoS general requirements from both MSC and MSP;
- b) the MSPA structure associated with basic process functions that characterize the nature of MSPA and the MSPA reference model;
- c) MSPA management criteria and relevant objectives.

This ITU-T Recommendation does not specify:

- a) any value for overall GOMS or its relevant performance parameters/indices being agreed in an MSPA, or in an MSPA/contract or in an informal agreement between an MSC and an MSP;
- b) any particular action involved in an MSPA to establish and manage all types of OAM&P functions, processes and relevant procedures which in practice imply the specific implementation of an OPSG between an MSP and an MSC for the achievement of a particular GOMS;
- c) performance parameters/indices and relevant values for any specific MS.

2 References

The following ITU-T Recommendations and other references, contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

- [1] ITU-T Recommendation M.60 (1993), *Maintenance terminology and definitions*.
- [2] ITU-T Recommendation M.1230 (1996), *Method to improve the management of operations and maintenance processes in the International Telephone Network*.
- [3] ITU-T Recommendation M.1530 (1999), *Network maintenance information*.
- [4] ITU-T Recommendation M.1535 (1996), *Principles for maintenance information to be exchanged at customer contact point (MICC)*.
- [5] ITU-T Recommendation M.1537 (1997), *Definition of maintenance information to be exchanged at customer contact point (MICC)*.
- [6] ITU-T Recommendation M.1539 (1999), *Management of the grade of network maintenance services at the maintenance service customer contact point (MSCC)*.
- [7] ITU-T Recommendation E.440 (1996), *Customer Satisfaction Point*.